PROJECT DESCRIPTION

THIS PHASE OF M.O.T. INVOLVES THE INSTALLATION OF THE NEW TRAFFIC SIGNAL AT THE INTERSECTION OF MD 139 (CHARLES ST.) AND I-695 ON-RAMP IN BALTIMORE COUNTY. MD 139 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA FOUR-PHASE FULL-TRAFFIC-ACTUATED MODE WITH AN EXCLUSIVE-PERMISSIVE LEFT TURN PHASE FOR SOUTHBOUND MD 139.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED EIGHT PHASE TRAFFIC SIGNAL CONTROLLER ASC II WITH TELEMETRY, VIDEO DETECTION INTERFACE EQUIPMENT, INTERSECTION MONITOR, PHONE DROP AND FOUR CHANNEL LOOP DETECTOR AMPLIFIER WITH ASSOCIATED HARNESS HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET. CONTRACTOR SHALL FURNISH AND INSTALL UPS SYSTEM HOUSED IN A NEMA SIZE "5" BASE MOUNTED CABINET.

CONTACT PERSONS FOR DISTRICT #4 ARE AS FOLLOWS:

MS. ERIN KUHN
ASSISTANT DISTRICT ENGINEER-TRAFFIC
PHONE: (410)321-2781

MR. MICHAEL PASQUARIELLO
UTILITY ENGINEER
PHONE: (410)321-2841

MR. STEVE MARCISZEWSKI
ASSISTANT DISTRICT ENGINEER-MAINTENANCE
PHONE: (410)321-2761

CONTACT PERSONS FOR OOTS ARE AS FOLLOWS:

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410)787-7630

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF
TRAFFIC OPERATIONS
(410)787-7630

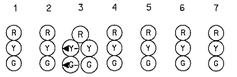
MR. ED RODENHIZER
CHIEF, SIGNAL OPERATIONS
(410)787-7650

MR. EUGENE BAILEY
CHIEF, SIGN OPERATIONS
(410)787-7676

THE POWER COMPANY

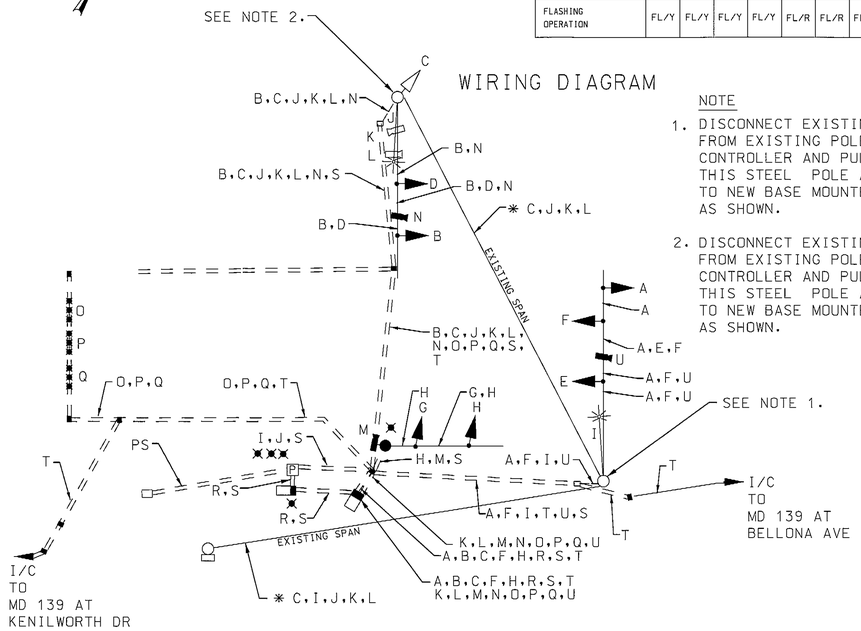
BGE
GAS & ELECTRIC NEW BUSINESS DEPT.
(410) 850-4620

PHASING CHART



PHASE 2 & 5	R	R	◄G-√G	G	R	R	R	
2 & 5 CHANGE	R	R	◄Y-√G	G	R	R	R	
PHASE 2 & 6	G	G	G	G	R	R	R	
2 & 6 CHANGE	Y	Y	Y	Y	R	R	R	
PHASE 4	R	R	R	R	G	G	G	
4 CHANGE	R	R	R	R	Y	Y	Y	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	

WIRING DIAGRAM



NOTE

1. DISCONNECT EXISTING CABLE "I" FROM EXISTING POLE MOUNTED CONTROLLER AND PULL BACK TO THIS STEEL POLE AND RE-ROUTE TO NEW BASE MOUNTED CONTROLLER AS SHOWN.
2. DISCONNECT EXISTING CABLES "C,J,K,L" FROM EXISTING POLE MOUNTED CONTROLLER AND PULL BACK TO THIS STEEL POLE AND RE-ROUTE TO NEW BASE MOUNTED CONTROLLER AS SHOWN.

WIRING KEY

A-B	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
C	EXISTING 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
D-H	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
I-J	EXISTING 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 AWG) TC
K-L	EXISTING 500 FT. VIDEO DETECTION CAMERA CONTROL CABLE
M-N	RELOCATED 250 FT. VIDEO DETECTION CAMERA CONTROL CABLE
O-Q	NON-INVASIVE MICRO-LOOP PROBE, 500 FT. LEAD IN CABLE
R	1-CONDUCTOR ELECTRICAL CABLE NO.4 AWG - THHN/THWN (3 RUNS)
S	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
T	12-PAIR COMMUNICATION CABLE (SEE INTERCONNECT PLAN FOR DETAIL)
U	250 FT. VIDEO DETECTION CAMERA CONTROL CABLE
PS	UNDERGROUND POWER SERVICE TO BE INSTALLED BY BGE
✱	GROUND ROD
✳	EXISTING CABLES TO BE PULLED-BACK AND RE-ROUTED

EQUIPMENT LIST "A"

B. EQUIPMENT TO BE FURNISHED BY SHA AND INSTALLED BY CONTRACTOR.

CATAGORY CODE	DESCRIPTION	UNIT	QUANTITY
900000	VIDEO DETECTION INTERFACE EQUIPMENT	EA	1
963010	FOUR CHANNEL LOOP DETECTOR AMPLIFIER RACK MOUNT	EA	1
971017	EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET - BASE MOUNT	EA	1
973023	SHEET ALUMINUM SIGNS	SF	85

1 - R3-6(MOD) (42"X36") - MAST ARM MOUNT
2 - R3-5(L) (30"X36") - MAST ARM MOUNT
1 - R3-1(L) (30"X30") - MAST ARM MOUNT
1 - R3-1(R) (30"X30") - MAST ARM MOUNT
1 - D-3 (1) (VAR. X 16") - MAST ARM MOUNT
1 - M3-3 (24"X12"), M1-5(1) (30"X24"), M6-1 (21"X15") - POLE MOUNT
1 - M3-1 (30"X15"), M1-5(1) (48"X36"), M6-1 (30"X24") - POLE MOUNT

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

CATAGORY CODE	DESCRIPTION	UNIT	QUANTITY
203030	TEST PIT EXCAVATION	CY	1
585625	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	120
585621	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	181
801004	CONCRETE FOR SIGNAL FOUNDATION	CY	4.6
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	260
805118	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	190
805125	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	30
805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	270
805140	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	145
800000	METERED PEDESTAL SERVICE - EMBEDDED	EA	1
810010	ELECTRICAL CABLE 1-CONDUCTOR NO 4 AWG THHN/THWN	LF	90
810601	NONINVASIVE DETECTOR, 500 FT. LEAD IN CABLE	EA	3
810610	NONINVASIVE DETECTOR, CARRIER PIPE	LF	50
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	4
813015	INSTALL OVERHEAD SIGN	SF	85
800000	INSTALL CONTROL CABLE, 250 FT. VIDEO DETECTION CAMERA TO CONTROLLER	EA	2
818030	STEEL POLE WITH A SINGLE 38 FT. MAST ARM	EA	1
837001	GROUND ROD - 3/4 INCH DIAMETER X 10 FT. LENGTH	EA	5
860284	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	EA	22
861107	INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	250
861108	INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	LF	400
800000	PULL BACK RE-ROUTE CABLES	LF	2325
800000	8 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	EA	3
816001	VIDEO DETECTION CAMERA	EA	2
800000	RELOCATE VIDEO DETECTION CAMERA	EA	1
871117	INSTALL CABINET AND CONTROLLER - BASE MOUNT	EA	1
816005	CONTROL CABLE, 250 FT. VIDEO DETECTION CAMERA TO CONTROLLER	EA	1
800000	BASE MOUNTED CABINET SIZE #5 WITH UPS SYSTEM	EA	1
800000	REMOVE, DISPOSE, SALVAGE, AND STORAGE OF TERMPORARY TRAFFIC SIGNAL EQUIPMENT	LS	1

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND PICKED UP BY THE S.H.A.

THE EXISTING POLE MOUNTED CONTROLLER AND AND LED SIGNAL HEADS REMOVED BY THE CONTRACTOR SHALL BE PICKED UP BY THE S.H.A. ALL OTHER MATERIALS AND EQUIPMENT REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL CONTACT MR. ED RODENHIZER 72 HOURS PRIOR TO CONSTRUCTION.

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABELING EACH CABLE.
3. ALL UNUSED CABLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

   UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
4. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS, HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
5. VIDEO DETECTION LOCATION/ALIGNMENT SHALL BE COORDINATED WITH THE SHA ENGINEER.
6. DETECTABLE WARNING SURFACES TO BE INSTALLED AS PART OF ROADWAY DESIGN.

CONSTRUCTION DETAILS CONT.

L. INSTALL NON-INVASIVE MICRO-LOOP PROBE SET WITH 3 IN. CARRIER PIPE, BORED.

M INSTALL 24 IN. WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS.

N. STUB CONDUIT AT TRANSFORMER BASE: BGE TO MAKE FINAL CONNECTION.

O. INSTALL 12 IN. WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING

P. USE EXISTING HANDHOLE

Q. USE EXISTING CONDUIT

R. 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED (SEE INTERCONNECT PLAN)

S. ELECTRICAL HANDHOLE (SEE INTERCONNECT PLAN)

T. REMOVE EXISTING WOOD SIGNAL POLE, CABINET, AND SPAN WIRE

U. REMOVE EXISTING SPAN AND ALL ASSOCIATED EQUIPMENT

V. CAP AND ABANDON CONDUIT

W. 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED (SEE INTERCONNECT PLAN)

X. INSTALL BASE MOUNTED CABINET SIZE #5 WITH UPS SYSTEM NOTE: INSTALL 2-2 IN. CONDUIT BENDS INTO FOUNDATION.

PHASE 4 AND ULTIMATE SIGNAL STRUCTURE

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 139 (CHARLES ST.) AND I-695 EB OFF-RAMP
TOWSON, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE DATE MAY 2008 CONTRACT NO. BA9775A72

DESIGNED BY MLH
DRAWN BY MLH
CHECKED BY DAE
FAP NO. SEE TITLE SHEET
COUNTY BALTIMORE
LOGMILE 03013903.43
TIMS NO. I-572
TOD NO.

TS NO. 4162C-GI | DRAWING SP-08 OF 15 | SHEET NO. 279 OF

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